Maryland Historical Trust

Maryland Inventory of Historic Properties number: BA-2721

Name: MD 165 over Little Gunpowder Falls

The bridge referenced herein was inventoried by the Maryland State Highway Administration as part of the Historic Bridge Inventory, and SHA provided the Trust with eligibility determinations in February 2001. The Trust accepted the Historic Bridge Inventory on April 3, 2001. The bridge received the following determination of eligibility.

MARYLAND HISTORICAL TRUST

Eligibility Recommended ___X___ Eligibility Not Recommended _____

Criteria: ____A ____B __X__C ____D Considerations: ___A ___B ___C ___D ___E ___F ___G __None

Comments:_____

_____

_____

Reviewer, OPS:_Anne E. Bruder_____ Date:__3 April 2001____

Reviewer, NR Program:__Peter E. Kurtze_____ Date:__3 April 2001____

MARYLAND INVENTORY OF HISTORIC BRIDGES
HISTORIC BRIDGE INVENTORY
MARYLAND STATE HIGHWAY ADMINISTRATION/
MARYLAND HISTORICAL TRUST

MHT No. BA-2721

SHA Bridge No. 3100 **Bridge name** MD 165 over Little Gunpowder Falls

LOCATION:
Street/Road name and number [facility carried] MD 165 (Baldwin Mill Road)

City/town Baldwin **Vicinity** X

County Baltimore

This bridge projects over: Road____ **Railway**_____ **Water** X **Land** ____

Ownership: State X **County** _____ **Municipal** _____ **Other** ___

HISTORIC STATUS:
Is the bridge located within a designated historic district? Yes _____ **No** X
National Register-listed district ____ **National Register-determined-eligible district** __
Locally-designated district _____ **Other** _____

Name of district _____

BRIDGE TYPE:
Timber Bridge _____:
Beam Bridge _____ **Truss -Covered** ___ **Trestle** ____ **Timber-And-Concrete** ___

Stone Arch Bridge _____

Metal Truss Bridge _____

Movable Bridge ____:
Swing _____ **Bascule Single Leaf** __ **Bascule Multiple Leaf** _____
Vertical Lift _____ **Retractile**_____ **Pontoon** _____

Metal Girder X:
Rolled Girder X **Rolled Girder Concrete Encased** _____
Plate Girder _____ **Plate Girder Concrete Encased** _____

Metal Suspension _____

Metal Arch _____

Metal Cantilever _____

Concrete _____:
Concrete Arch_____ **Concrete Slab**_____ **Concrete Beam** ____ **Rigid Frame** _____
Other _____ **Type Name** _____

BA-2721

DESCRIPTION:

Setting: Urban _____ **Small town** _____ **Rural** X

Describe Setting:

Bridge No. 3100 carries MD 165 (Baldwin Mill Road) over Little Gunpowder Falls in Baltimore County. MD 165 runs north-south and Little Gunpowder Falls flows east-west. The bridge is located in the vicinity of Baldwin and is surrounded by a wooded area.

Describe Superstructure and Substructure:

Bridge No. 3100 is a 1-span, 2-lane, metal girder bridge. The bridge was originally built in 1931. The structure is 61 feet long and has a clear roadway width of 27 feet. The out-to-out width is 29 feet, 6 inches. The superstructure consists of six (6) rolled girders which support a concrete deck and concrete parapets. The girders are 9 inches x 37 inches and are spaced 4 feet, 10 inches apart. The roadway is carried on the girders. The concrete deck is 9 inches thick and it has a bituminous wearing surface. The structure has pierced parapets, and the roadway approaches at a downgrade from the south and is tangent and level with the bridge from the north. A date plaque on the east parapet indicates that the bridge was constructed in 1931 by the State Roads Commission. The substructure consists of two (2) concrete abutments. There are four (4) wing walls. The bridge has a sufficiency rating of 49.6.

According to the 1995 inspection report, this structure is in fair condition with minor deterioration in both the superstructure and substructure. The girders have areas of rust, pitting, and minor section loss. The concrete surface is 75 percent patched. The concrete has vertical and horizontal cracking in the abutments and wingwalls, but the substructure is in good condition. Also, the concrete parapets have exposed aggregate and some medium cracking.

Discuss Major Alterations:

Inspection reports from 1995 detail the concrete patching of the abutments.

HISTORY:

WHEN was the bridge built: 1931
This date is: Actual X **Estimated** _____
Source of date: Plaque X **Design plans** X **County bridge files/inspection form** __
Other (specify): State Highway Administration bridge files/inspection form

WHY was the bridge built?

The bridge was constructed in response to the need for more efficient transportation network and increased load capacity.

WHO was the designer?

State Roads Commission

WHO was the builder?

Unknown

WHY was the bridge altered?

N/A

Was this bridge built as part of an organized bridge-building campaign?

The bridge was constructed by the State, as part of a campaign to increase load capacity on secondary roads during the 1930s

SURVEYOR/HISTORIAN ANALYSIS:

This bridge may have National Register significance for its association with:
A - Events _____ B- Person _____
C- Engineering/architectural character ____X____

The bridge is eligible for the National Register of Historic Places under Criterion C, as a significant example of metal girder construction. The structure has a high degree of integrity and retains such character-defining elements of the type as rolled longitudinal I-beams and concrete abutments. The bridge also retains its original pierced parapet.

Was the bridge constructed in response to significant events in Maryland or local history?

Metal girder bridges were most likely introduced and first popularized in Maryland by the state's major railroads of the nineteenth century including the Baltimore and Susquehanna, its successor the Northern Central, and the Baltimore and Ohio Railroad. Bridge engineering historians have documented the fact that James Milholland (or Mulholland) erected the earliest plate girder span in the United States on the Baltimore and Susquehanna Railroad in 1846 at Bolton Station, near present-day Mount Royal Station. The sides (web) and bottom flange of Milholland's 54-foot-long span were wholly of wrought iron and included a top flange reinforced with a 12x12-inch timber. Plates employed in the bridge were 6 feet deep and 38 inches wide, giving the entire bridge a total weight of some 14 tons. Milholland's pioneering plate girder cost $2,200 (Tyrrell 1911:195). By December 31, 1861, the Northern Central Railroad, which succeeded the Baltimore and Susquehanna, maintained an operating inventory in Maryland of 50 or more bridges described simply as "girder" spans, in addition to a number of Howe trusses. Most of these were probably iron girder bridges; the longest were the 117-foot double-span bridge over Jones Falls and the 106-foot double-span girder bridge at Pierce's Mill (Gunnarson 1990:179-180).

As in the nation, girder bridge technology in Maryland was quickly adapted to cope with the increasingly heavy traffic demands of the twentieth century caused by automobile and truck traffic. The 1899 Maryland Geological Survey report on highways noted that "there are comparatively few I-beam bridges, one of the cheapest and best forms for spans less than 25 or 30 feet" (Johnson 1899:206). Interestingly, the report also urged construction of a composite metal, brick, and concrete bridge, noting that "no method of construction is more durable than the combination of masonry and I-beams, between which are transverse arches of brick, the whole covered with concrete, over which is laid the roadway" (Johnson 1899:206). Whether any such bridges (transitional structures between I-beams and reinforced concrete spans) were built is unknown.

Official state and county highway reports—issued between 1900 and the early 1920s through the Highway Division of the Maryland Geological Survey and its successor, the State Roads Commission—generally do not reference or describe girder construction. An analysis of the current statewide listing of county and municipal bridges (a listing maintained by the State Highway Administration) reveals that 48 county bridges, out of the total of 141 approximately dated to "1900"

by county engineers, were listed as steel girder, steel stringer, or variants of such terms. (It should be noted that the "1900" date is often given when no exact date is pinpointed for a bridge that is clearly old). A grand total of 200 bridges (including "steel culverts"), out of 550 bridges dated on the county list between 1901 and 1930, were described as steel beam, steel girder, or steel stringer and girder varieties. The total suggests that among the various highway bridge types built in the early twentieth century metal girder bridges in Maryland between 1900 and 1930 were second in popularity only to reinforced concrete bridges. However, these numbers must be interpreted with caution, as they do not necessarily include all county and municipal bridges.

When the bridge was built and/or given a major alteration, did it have a significant impact on the growth and development of the area?

There is no evidence that the construction of this bridge had a significant impact on the growth and development of this area.

Is the bridge located in an area which may be eligible for historic designation and would the bridge add to or detract from the historic/visual character of the potential district?

The bridge is located in an area which does not appear to be eligible for historic designation.

Is the bridge a significant example of its type?

The bridge is a potentially significant example of a metal girder bridge, possessing a high degree of integrity.

Does the bridge retain integrity of important elements described in Context Addendum?

The bridge retains the character-defining elements of its type, as defined by the Statewide Historic Bridge Context, including rolled longitudinal I-beams and concrete abutments.

Is the bridge a significant example of the work of a manufacturer, designer, and/or engineer?

This bridge is a significant example of the work of the State Roads Commission in the 1930s.

Should the bridge be given further study before an evaluation of its significance is made?

No further study of this bridge is required to evaluate its significance.

BIBLIOGRAPHY:

County inspection/bridge files _____ **SHA inspection/bridge files** X
Other (list):

Gunnarson, Robert
1990 *The Story of the Northern Central Railway, From Baltimore to Lake Ontario.* Greenberg Publishing Co., Sykesville, Maryland.

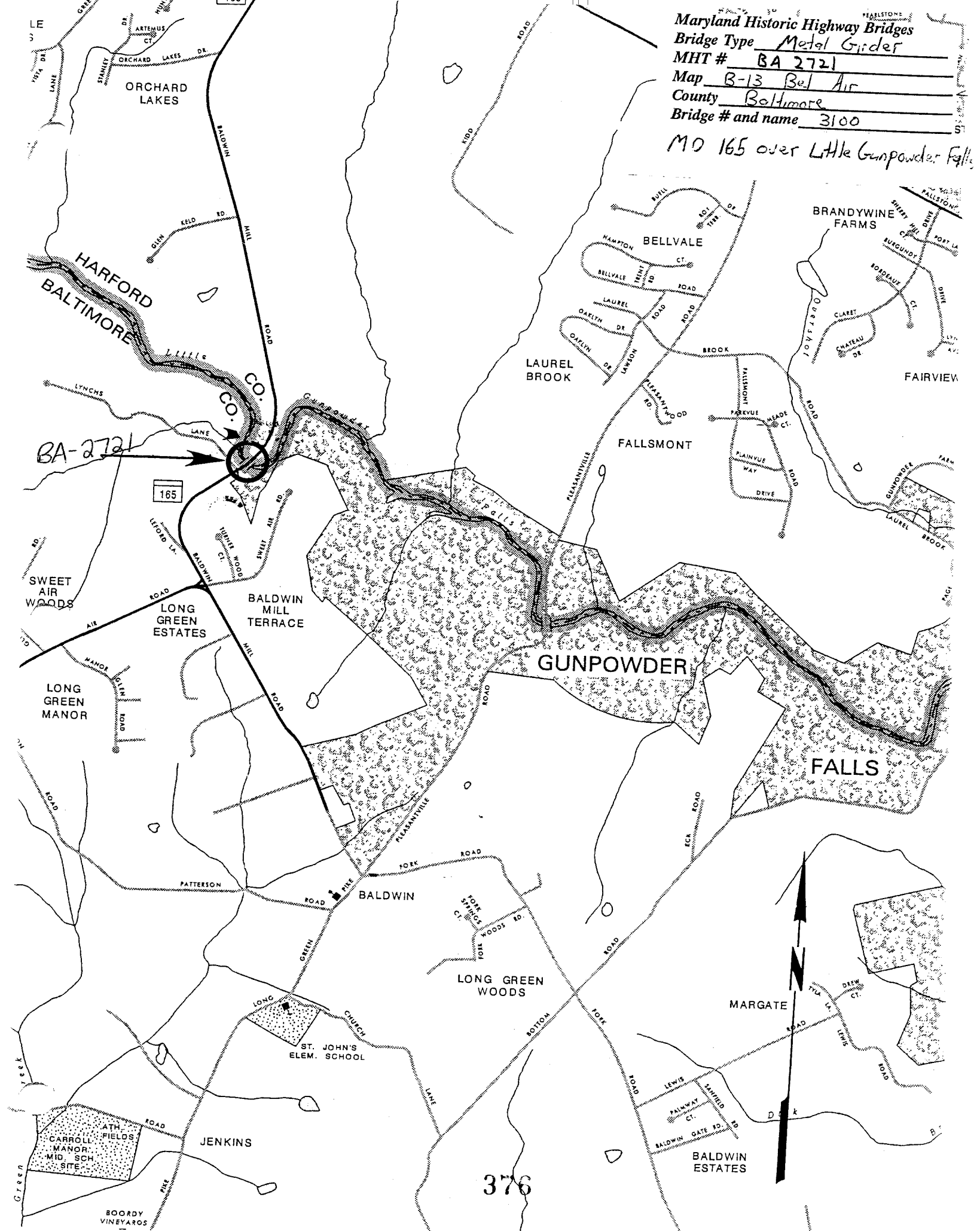
Johnson, Arthur Newhall
1899 The Present Condition of Maryland Highways. In *Report on the Highways of Maryland.* Maryland Geological Survey, The Johns Hopkins University Press, Baltimore.

BA-2721

Tyrrell, Henry G.
1911 *History of Bridge Engineering*. Published by author, Chicago.

SURVEYOR:

Date bridge recorded 2/28/97
Name of surveyor Caroline Hall/Eric F. Griffitts
Organization/Address P.A.C. Spero & Co., 40 W. Chesapeake Avenue, Baltimore, MD 21204
Phone number (410) 296-1685 **FAX number** (410) 296-1670


Maryland Historic Highway Bridges
Bridge Type Metal Girder
MHT # BA 2721
Map B-13 Bel Air
County Baltimore
Bridge # and name 3100
MD 165 over Little Gunpowder Falls
BA-2721
ORCHARD LAKES
HARFORD
BALTIMORE
CO.
CO.
BELLVALE
BRANDYWINE FARMS
LAUREL BROOK
FALLSMONT
FAIRVIEW
SWEET AIR WOODS
LONG GREEN ESTATES
BALDWIN MILL TERRACE
LONG GREEN MANOR
GUNPOWDER FALLS
BALDWIN
LONG GREEN WOODS
MARGATE
BALDWIN ESTATES
JENKINS
ST. JOHN'S ELEM. SCHOOL
CARROLL MANOR MID. SCH. SITE
ATH. FIELDS
BOORDY VINEYARDS
165
N

1. BA - 2721
2. MD 147 over Little Gunpowder Falls
3. Baltimore County
4. Eric Griffith
5. 3/97
6. MD SHPO
7. south approach
8. 1 of 6


HARFORD

1. BA-2721

2. MS 165 over Little Gunpowder Falls

3. Baltimore County

4. Eric Griffitts

5. 3/97

6. MD SHPO

7. north approach

8. 2 of 6

1. BA - 2921
2. MD 165 over Little Gunpowder Falls
3. Baltimore County
4. Eric Griffitts
5. 3/97
6. MD SHPO
7. west elevation
8. 3 of 6

1. BA-2721
2. MD 105 over Little Gunpowder Falls
3. Baltimore County
4. Eric Griffitts
5. 3/97
6. MDSHPO
7. East elevation
8. 4 of 6

1. BA - 2721
2. MD 165 over Little Gunpowder Falls
3. Baltimore County
4. Eric Griffiths
5. 3/97
6. MD SHPO
7. girders under deck
8. 5 of 6

1. BA-3721
2. MD 45 over Little Gunpowder FALLS
3. Baltimore County
4. Eric Griffitts
5. 3/97
6. MD SHPO
7. parapet on east elevation - Nabat
8. 6 of 6